

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LARS JOHNSEN

Appeal 2007-2902
Application 09/936,820
Technology Center 3700

DECIDED: October 18, 2007

Before TONI R. SCHEINER, DONALD E. ADAMS, and LORA M. GREEN,
Administrative Patent Judges.

SCHEINER, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134 from the final rejection of claims 41-49 and 52-55 as obvious over the prior art.¹ We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

¹ Claims 50 and 51 are also pending, but have been indicated allowable by the Examiner.

THE INVENTION

“The object of the invention is to provide a lid [for a container] which is easy to open without the use of a great force” (Spec. 2: 10-11).

Claims 55 and 41 are representative of the claimed subject matter:

41. A lid assembly according to claim 55, wherein the second layer consists of aluminum.

55. A lid assembly for closing an opening in a neck of a container, said lid assembly comprising an outer lid member and a planar, multilayered inner lid member,

said outer lid member consisting of a top part and a cylindrical collar, said cylindrical collar defining inwardly-extending threads and a single inwardly-extending protrusion which is located below the inner lid member at a level of an upper edge of the neck of the container when the lid assembly is attached to the container, and

said planar, multilayered inner lid member consisting of a first layer for sealing against the upper edge of the container and made of a soft thermoplastic elastomer, a second layer having gas barrier properties, and a third layer consisting of thermoplastics which covers the second layer, said third layer making contact with the outer lid, wherein said third layer has a first relatively low friction coefficient with said outer lid and said first layer has a second relatively higher friction coefficient with the upper edge of the neck of the container,

wherein during removal of the lid assembly from a container, the outer lid member is rotated relative to the neck of the container and said protrusion will exert an upward pressure against an edge of the inner lid member to cause the inner lid member to be pointwise separated from the upper edge of the neck as the outer lid member is rotated.

According to the Specification, “[b]y concentrating the force at a single point and affecting the inner lid in an upward direction, the force required to create venting of the inner volume will be greatly reduced” (Spec. 2: 27-30).

In addition, “where[] the upper [third] layer of the [multi-layered] inner lid has a relatively lower friction with the [outer] lid than the lower [first] layer of the inner lid which has a relatively higher friction with the edge of the container collar . . . the outer lid rotates relatively to the inner lid until the inner lid is lifted by the projection of the lid” (Spec. 3: 25-32).

“The second [middle] layer may advantageously consist of aluminum . . . [which] can form a good gas barrier even with a very thin layer” (*id.* at 5: 24-26).

Figure 1 of the instant Specification is reproduced below:

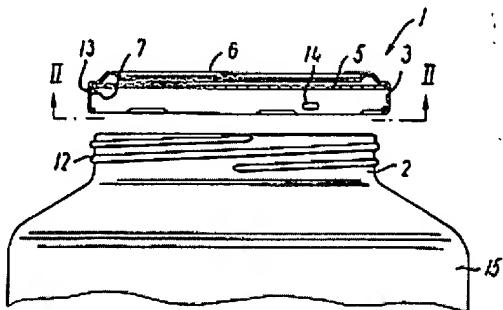


FIG. 1

Figure 1 “shows a lid 1 in relation to a package neck 15, 2” (Spec. 7: 8). According to the Specification, “[i]n the lid, a loose, circular plate called the inner lid 5 is positioned, whose diameter essentially corresponds to the diameter of the collar 3 and is larger than the external diameter of the package neck. A projection 13 in the form of a cylindrical or box-shaped pin extends from the inner face of the collar 3, and this projection 13 has an extent such that it extends into the peripheral part of the inner lid 5 . . . the essential point being that [the projection 13] has a small contact area so that when the lid is removed and the venting function is released, the force . . . [is] distributed over as small an area as possible . . . Additional projections

14 may be arranged in the lid . . . positioned at a greater distance from the inner lid 5 than the active projection[] 13, the purpose of the additional projections 14 exclusively being to ensure that the inner lid does not drop out” (*id.* at 7: 17 to 8: 4).

STATEMENT OF THE CASE

1. Claims 49 and 52-55 under 35 U.S.C. § 103(a) as unpatentable over Geiger,² Lecinski,³ and Acton.⁴
2. Claims 49 and 52-55 under 35 U.S.C. § 103(a) as unpatentable over Geiger, Hayes,⁵ and Acton.
3. Claims 41-48 under 35 U.S.C. § 103(a) as unpatentable over Geiger, Hayes, Acton, and Osip.⁶

Appellant has not argued that the claims are separately patentable. Therefore, with respect to the first and second rejections, we will focus on independent claim 55 as representative of the claimed subject matter, and remaining claims 49 and 52-54 will stand or fall accordingly, as provided for in 37 C.F.R. § 41.37(c)(1)(vii). With respect to the third rejection, we will focus on claim 41 as representative, and remaining claims 42-48 will stand or fall accordingly.

² U.S. Patent 4,473,163 to Geiger, issued September 25, 1984.

³ UK Patent Application GB 2 122 178 A of Lecinski, published January 11, 1984.

⁴ U.S. Patent 3,006,493 to Acton, issued October 31, 1961.

⁵ U.S. Patent 5,839,592 to Hayes, issued November 24, 1998.

⁶ U.S. Patent 4,991,731 to Osip, issued February 12, 1991.

FINDINGS OF FACT

Geiger

1. Geiger describes “a screwcap **1** with a plastic, annular outer cap **2** and a punched . . . sheet metal inner cap” (Geiger, col. 3, ll. 37-39), and “[a]t a distance D_1 from the lower edge **22** of edge portion **16** of inner cap **3**, . . . projection **23b** is formed on the inside of collar **24** of the outer cap” (*id.* at col. 3, ll. 63-66). Thus, Geiger describes a lid assembly for closing the opening in a neck of a container, comprising an outer lid member and an inner lid member, wherein the outer lid member has a cylindrical collar with a single inwardly-extending protrusion located between the inner lid member and the level of the upper edge of the neck of the container when the lid assembly is attached to the container, as required by claim 55.
2. “On unscrewing the cap, projection **23b** is first to raise inner cap **3** in the axial direction from the container opening” (*id.* at col. 4, ll. 5-7), thus, “the raising force only acts in a locally defined zone on the periphery of the inner cap **3**. The inner cap is only initially raised in this zone, and the vacuum . . . is removed before the complete inner cap is raised” (*id.* at col. 4, ll. 16-20). Thus, “said protrusion will . . . cause the inner lid member to be pointwise separated from the upper edge of the neck as the outer lid member is rotated,” as required by claim 55.
3. Geiger’s inner cap is sheet metal, with a “soft-elastic sealing layer” which “sealingly engages” the neck of the container “by elastic deformation” (Geiger, col. 1, ll. 42-44). Referring to Figure 1, Geiger teaches that “[o]uter cap **2** can be turned by exerting relatively little force, without peripherally displacing the inner cap **3**. The contact between the

varnished top of inner cap **3** and the plastic material of the outer cap provides adequately low frictional resistance so that the treading movement of the outer cap is only opposed by relatively limited frictional resistance” (Geiger, col. 3, ll. 54-61). Thus, Geiger’s inner cap has a first layer for sealing against the upper edge of the container, and a second metal layer having “gas barrier properties,” and the inner lid has a relatively low friction coefficient with the outer lid as compared with the upper edge of the neck of the container, as required by claim 55.

4. Geiger’s sheet metal inner cap has an “annular groove,” and a “downwardly sloping edge portion” (Geiger, col. 1, ll. 38-39, and ll. 45-47). Therefore, Geiger’s inner lid differs from that of the present invention in that it is not “planar,” as required by instant claim 55.

Lecinski

5. Lecinski describes a two-piece screw type cap for a container, such as a glass jar, comprising a ring member and a closure panel. The closure panel **22** is sheet metal “provided with an external protective coating **38**” on top and a gasket **42** below, “formed of a suitable sealing material” (Lecinski 2: 31-37).

6. Lecinski’s external coating “has a low coefficient of friction as does the undersurface of the retaining ring . . . Thus, there may be relative rotation between the ring member [] and the closure panel [] with a minimum of frictional resistance” (Lecinski 2: 47-52).

Acton

7. Acton describes a two-piece screw type cap for a container, such as a glass jar, comprising a ring member and a planar sealing liner 6, illustrated in Figures 1, 8, and 9, “which is pressed into the cap and held therein by [] liner-retaining lugs 7” (Acton, col. 2, ll. 66-68).

Hayes

8. Hayes describes a two-piece screw type cap for a container, such as a glass jar, comprising a ring and a closure disk. The closure disk is formed from “a thermoplastic composite having an upper or outer layer which is a strong but flexible plastic material, and a lower layer which is softer and comparably easily deformed” (Hayes, col. 2, ll. 1-4), e.g., a thermoplastic elastomer (*id.* at col. 4, l. 29).

9. Hayes’ “composite laminate can be formed with various intermediate layers such as an oxygen-barrier layer which would prevent oxygen permeation into the headspace” (*id.* at col. 2, ll. 8-10). “Typical barrier layers include ethylene vinyl alcohol, and polyvinylidene chloride[,] [and] [m]etal foil” (Hayes, col. 4, ll. 33-35).

Osip

10. Osip describes a two-piece screw type cap for a container, such as a plastic jar, comprising an outer annular portion, and a “metallic disk [] with the disk lower surface [] having applied there to a fusible coating[], preferably of polypropylene” (Osip, col. 4, ll. 54-56). “[A]luminum . . . is an excellent choice [for the disk] since the rigidity of the metal forming the disk must be greater than the peel strength, otherwise the metallic disc will be subject to . . . deformation upon removal” (*id.* at col. 4, ll. 62-67).

DISCUSSION

Obviousness over Geiger, Lecinski, and Acton

Claims 49 and 52-55 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Geiger, Lecinski, and Acton.

The Examiner acknowledges that Geiger “does not teach the third layer of the inner lid nor . . . the inner lid being planar” (Answer 3), but contends that it would have been obvious for one of ordinary skill in the art “to provide the lid assembly of Geiger with the inner lid having a third layer, as taught by Lecinski, in order to protect the metal” (*id.*), and to provide a planar inner lid, as taught by Acton, “in order to simplify the manufacturing process by eliminating more complicated outlines” (*id.*).

The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) secondary considerations of nonobviousness, if any. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). The Supreme Court has recently emphasized that “the [obviousness] analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int'l v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007). “The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* at 1739. Moreover, an “[e]xpress suggestion to substitute one equivalent for another need not be

present to render such substitution obvious.” *In re Fout*, 675 F.2d 297, 301 (CCPA 1982).

We find that the Examiner has established that the claimed lid assembly would have been obvious over the cited references (all of which pertain to two-piece screw type closures for jars (FF⁷ 1, 5, and 7)), given the fact that the references show that both shaped and planar disks are familiar alternatives in two-piece screw type closures (FF 4 and 7), the fact that multi-layer disks (FF 3 and 5) with a gas barrier layer (FF 3) are common elements in two-piece screw type closures, and the fact that it is conventional to coat the top of the inner lid with a layer of material that provides a relatively low coefficient of friction between the inner and outer members of two-piece screw type closures (FF 3 and 6).

We are not persuaded otherwise by the mere assertion that “there is no reasonable ‘teaching’ in Lecinski that would suggest applying another layer to the inner cap 3 of Geiger” (Appeal Br. 6). The Examiner has articulated a reason, based on the prior art, why one of ordinary skill in the art would have put a third coating on Geiger’s metal inner lid, which Appellant has not addressed.

Nor are we persuaded by Appellant’s contention that “although the inner lid 6 in Acton does appear to be planar, there is no discussion of this fact in [Acton’s] specification and thus absolutely no ‘teaching’ that would suggest use of a planar inner lid in some other environment” (Appeal Br. 6-7). Both Acton and the present invention concern two-piece screw type

⁷ “Finding(s) of Fact”.

closures for jars. Acton's Figure 1 illustrates a planar inner lid **6**, "which is pressed into the [closure, i.e., outer,] cap and held therein by the liner-retaining lugs **7**" (Acton, col. 2, ll. 66-71). Appellant has not explained why Acton's Figure 1, with or without the accompanying text, would not have suggested to one of skill in the art that planar inner lids are conventional alternatives to shaped inner lids in two-piece screw type closures.

Appellant's contention that "reconstructing the inner cap of Geiger to be 'completely planar' would mean omission of the downwardly-extending peripheral wall part found on each embodiment of the Geiger invention" (Appeal Br. 7) is unpersuasive for the same reason.

Finally, Appellant's argument that "the [E]xaminer has provided no reasoning why it would be obvious to exclude the projections 23a, 23c and 23d in Geiger" (*id.* at 7) is irrelevant. Geiger's projections 23a, 23c and 23d are not "located below the inner lid member at a level of an upper edge of the neck of the container when the lid assembly is attached to the container" (Claim 55), and so are not precluded by claim 55. As Geiger explains, "[a]t a distance D₁ from the lower edge **22** of edge portion **16** of inner cap **3**, projection **23b** is formed on the inside of collar **24** of the outer cap . . . Other identically shaped [] projections **23a**, **23c**, **23d** are peripherally distributed at somewhat greater distance D₂ from the lower edge **22** of the inner cap" (Geiger, col. 3, l. 63 to col. 4, l. 2). "On unscrewing the cap, projection **23b** is first to raise inner cap **3** in the axial direction from the container opening" (*id.* at col. 4, ll. 5-7), thus, "the raising force only acts in a locally defined zone on the periphery of the inner cap **3**. The inner cap is only initially raised in this zone, and the vacuum . . . is removed before the complete inner

cap is raised” (*id.* at col. 4, ll. 16-20). Projections **23a**, **23c**, **23d**, on the other hand, “subsequently engage edge portion **16** to completely raise the inner cap” (*id.* at col. 4, ll. 14-15). They also function “so that inner cap **3** is reliably held in outer cap **2**” (*id.* at col. 4, ll. 40-41). In any case, as discussed above, the present Specification describes a similar arrangement: “Additional projections **14** may be arranged in the lid . . . positioned at a greater distance from the inner lid **5** than the active projection[] **13** . . . to ensure that the inner lid does not drop out” (Spec. 7: 33 to 8: 4).

“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” KSR, 127 S. Ct. at 1739. We find that is the case here, and the Examiner has established that the lid assembly of claim 55 would have been obvious over the prior art. As discussed above, claims 49 and 52-54 fall accordingly. The rejection of claims 49 and 52-55 under 35 U.S.C. § 103(a) as unpatentable over Geiger, Lecinski, and Acton is affirmed.

Obviousness over Geiger, Hayes, and Acton

Claims 49 and 52-55 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Geiger, Hayes, and Acton.

Again, the Examiner acknowledges that Geiger “does not teach the third layer of the inner lid nor . . . the inner lid being planar” (Answer 3), but contends that it would have been obvious for one of ordinary skill in the art “to provide the lid assembly of Geiger with the inner lid having a third layer, as taught by [Hayes], in order to protect the metal” (*id.*), and also to provide

a planar inner lid, as taught by Acton, “in order to simplify the manufacturing process by eliminating more complicated outlines” (*id.*).

Appellant contends that “there would be *no reason to add an oxygen barrier to the inner lid of Geiger since it already includes a layer [] of sheet metal*” (Appeal Br. 8). This argument is not persuasive. The Examiner’s position is not that it would have been obvious to add an oxygen barrier to Geiger’s inner cap (Geiger’s inner cap already has an oxygen barrier), but that it would have been obvious to add a protective layer of the type taught by Hayes, to the metal layer of Geiger’s inner cap. Appellant has not addressed this.

In addition, Appellant argues that “it would not be ‘obvious’ based on Hayes to reconstruct the inner cap 3 of Geiger to be ‘completely planar’ as the outer edge portion of the Geiger cap is critical to his invention” (Appeal Br. 8). We are not persuaded by this argument either, as Appellant has not explained why the outer edge portion of Geiger is critical to Geiger’s screw cap assembly.

We find that the Examiner has established that the claimed lid assembly would have been obvious over the cited references, all of which pertain to two-piece screw type closures for jars (FF 1, 7, and 8); the fact that the references show that both shaped and planar disks are familiar alternatives in two-piece screw type closures (FF 4 and 7); the fact that multi-layer disks (FF 3 and 8) with a gas barrier layer (FF 3 and 9) are common elements in two-piece screw type closures; and the fact that it is conventional to coat the top of the inner lid with a layer of material that

provides a relatively low coefficient of friction between the inner and outer members of two-piece screw type closures (FF 3).

The rejection of claims 49 and 52-55 under 35 U.S.C. § 103(a) as unpatentable over Geiger, Hayes, and Acton is affirmed.

Obviousness over Geiger, Hayes, Acton, and Osip

Claims 41-48 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Geiger, Hayes, Acton, and Osip. As discussed above, claim 41 is representative, and claims 42-48 will stand or fall accordingly.

Claim 41 depends from claim 55, and requires that the gas barrier layer is aluminum. The Examiner contends that “[i]t would have been obvious to one having ordinary skill in the art . . . to provide the modified lid assembly of Geiger with the metal being aluminum, as taught by Osip, to give the inner lid the rigidity characteristic of aluminum” (Answer 4).

Appellant argues that “nothing in Osip [] can overcome the deficiencies in the [E]xaminer’s rejection of claim 55 based on Geiger in view of [Hayes] and Acton” (Appeal Br. 9). This argument is not persuasive, as we have already found that Appellant has not established that the Examiner’s rejection of claim 55 as unpatentable over Geiger, Hayes, and Acton is deficient.

The rejection of claims 41-48 under 35 U.S.C. § 103(a) as unpatentable over Geiger, Hayes, Acton, and Osip is affirmed.

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SUMMARY

The Examiner's rejections of the claims under 35 U.S.C. § 103(a) as unpatentable over the prior art are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2006).

AFFIRMED

lbg

DYKEMA GOSSETT PLLC
FRANKLIN SQUARE, THIRD FLOOR WEST
1300 I STREET, NW
WASHINGTON DC 20005